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CLAIMS:

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1. A dual-band microstrip antenna comprising:
a ground member (30); and,
patch means having discrete first and second portions
(32, 34) which are generally parallel to each other and
5 spaced apart from the ground member, the patch means and
the ground member being configured such that the antenna
exhibits first and second resonant frequency ranges by
electromagnetic interaction between the patch means and
the ground member when the antenna is active;
10 wherein conduction surfaces of the portions (32, 34) of
the patch means are shaped to substantially correspond to
patterns of current flow detected in the conduction
surfaces when the antenna is active before such shaping.

2. An dual-band microstrip antenna as in claim 1,
wherein conduction surfaces of the ground member (30) are
shaped to substantially correspond to patterns of current
flow detected in the ground-member conduction surfaces
when the antenna is active before such shaping.

3. A dual-band microstrip antenna as in claim 1 or
2, wherein the ground member (30) has a rectangular outer
profile and wherein sides and one end of the patch means
are in respective alignment with sides and one end of the
ground member (30).

4. A dual-band microstrip antenna as in claim 3,
wherein the first portion of the patch means is a first
patch (32), wherein the second portion of the patch means
is a pair of second patches (34) each positioned adjacent
5 a respective opposite side of the first patch, one end of
each first and second patch corresponding to the one end
of the patch means, wherein an antenna signal feedline

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(38) is connected to a generally central position on the first patch (32), and wherein a shorting member (36) extends from each second patch (34) to the ground member (30) at a point proximate the one end of the second patch (34) ~~and the ground member (30)~~.

5. A dual-band microstrip antenna comprising:
a ground member (30); and,

first and second portions (32, 34) of a patch means that is in a generally parallel spaced relationship with the ground member (30), first and second resonant frequency ranges being defined by electromagnetic interaction between the patch means and the ground member; wherein sides and one end of the patch means are in respective alignment with sides and one end of the ground member (30), wherein the first portion of the patch means is a first patch (32) and the second portion of the patch means is a pair of second patches (34), each second patch (34) having a side adjacent a respective opposite side of the first patch (32), one end of each first and second patch corresponding to the one end of the patch means, wherein an antenna signal feedline (38) is connected to a generally central position on the first patch (32), wherein the first patch is not directly connected to the ground member, and wherein a shorting member (36) extends from each second patch to the ground member at a point proximate the one end of the second patch and the ground member.

6. A dual-band microstrip antenna as in claim 4, wherein each second patch (34) has a length approximating the length of the first patch (32), and has a width approximating one-half the width of the first patch.

7. A dual-band microstrip antenna as in claim 5, wherein each second patch (34) has a length approximating

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the length of the first patch (32), and has a width approximating one-half the width of the first patch.

8. A dual-band microstrip antenna as in claim 6, wherein the first patch (32) is generally configured as an 'H', with the sides of the first patch corresponding to side members of the 'H'.

9. A dual-band microstrip antenna as in claim 7, wherein the first patch (32) is generally configured as an 'H', with the sides of the first patch corresponding to side members of the 'H'.

10. A dual-band microstrip antenna as in claim 4, wherein the conduction surfaces of the ground member (30) is configured as a hollow generally rectangular structure, with a cross-piece extending between the sides of the structure at a projection of the position at which the antenna signal feedline (38) connects to the first patch.

11. A dual-band microstrip antenna as in claim 8, wherein the conduction surface of the ground member (30) is defined by two side members and an other-end member and with a cross-piece extending between the two side members at a projection of the position at which the antenna signal feedline (38) connects to the first patch (32), and wherein extensions of the side members of the first patch extend from the one end of the patch means to the plane of the ground member and then in the plane of the ground member for a part of the distance toward the cross-piece.

12. A dual-band microstrip antenna as in claim 9, wherein the conducting surface of the ground member (30) is defined by two side members and an other end member and with a cross-piece extending between the two side members at a projection of the position at which the antenna

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signal feedline (38) connects to the first patch (32), and wherein extensions of the side members of the first patch extend from the one end of the patch means to the plane of the ground member and then in the plane of the ground member for a part of the distance toward the cross-piece.

13. A dual-band microstrip antenna as in claim 10, wherein a coaxial cable is attached to the antenna such that a ground portion of the cable is connected to the cross-piece of the ground member, and such that a signal feed portion of the cable defines the antenna signal feedline (38) attached to the first patch (32).

14. A dual-band microstrip antenna as in claim 11, wherein a coaxial cable is attached to the antenna such that a ground portion of the cable is connected to the cross-piece of the ground member, and such that a signal feed portion of the cable defines the antenna signal feedline (38) attached to the first patch (32).

15. A dual-band microstrip antenna as in claim 12, wherein a coaxial cable is attached to the antenna such that a ground portion of the cable is connected to the cross-piece of the ground member, and such that a signal feed portion of the cable defines the antenna signal feedline (38) attached to the first patch (32).

16. A dual-band microstrip antenna as in claim 10, wherein the antenna is formed from printed circuit board having a conductive layer on one side, wherein the conducting surfaces of the ground member (30) are formed by removing portions of the conductive layer on the one side of a first segment of the circuit board, wherein the conducting surfaces of the patch means (32, 34) are formed by removing portions of the conductive layer on the one side of a second segment of the circuit board, and wherein

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the first and second segments of the circuit board are then mounted in parallel spaced relationship, and shorting members (36) are applied between the ground member (30) and the second patches (34) proximate the one end of the ground member and the second patches.

17. A dual-band microstrip antenna as in claim 11, wherein the antenna is formed from printed circuit board having a conductive layer on one side, wherein the conducting surfaces of the ground member are formed by removing portions of the conductive layer on the one side of a first segment of the circuit board, wherein the conducting surfaces of the patch means (32, 34) are formed by removing portions of the conductive layer on the one side of a second segment of the circuit board, wherein the first and second segments of the circuit board are then mounted in parallel spaced relationship, and wherein shorting members are applied between the one end of the ground member and the one end of the first and second patches.

18. A dual-band microstrip antenna as in claim 12, wherein the antenna is formed from printed circuit board having a conductive layer on one side, wherein the conducting surfaces of the ground member are formed by removing portions of the conductive layer on the one side of a first segment of the circuit board, wherein the conducting surfaces of the patch means (32, 34) are formed by removing portions of the conductive layer on the one side of a second segment of the circuit board, wherein the first and second segments of the circuit board are then mounted in parallel spaced relationship, and wherein shorting members are applied between the one end of the ground member and the one end of the first and second patches.

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19. A dual-band microstrip antenna comprising at least two conductive radiating structures (32, 34) having electromagnetic interaction, at least one of the structures being apertured at locations where, if apertures were not present, induced currents would be relatively low compared to currents in other parts of the structure.